No.

8400116

TO ALL TO WHOM THESE PRESENTS SHALL COME;

The Standard Oil Company,

Collegens. There has been presented to the

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLI-CANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EX-LUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT Y THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN

'SX-4-4'

In Lestimony Wancreot, I have hereunto set my hand and caused the seal of the Elant Variety Protection Office to be affixed at the City of Washington, D. C. 31st day of October the year of our Lord one thousand nine hundred and eighty-six.

Plant Variety Protection Office Livestock, Meat, Grain & Seed Dis

ltural Marketing Service

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE WAREHOUSE & SEED DIVISION

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is

APPLICATION FOR PLANT VARI	held	held confidential until certificate is issued (7 U.S.C. 2426).				
1. NAME OF APPLICANT(S)		2. TEMPORARY DESIGNATION	ON 3. V	ARIETY NA	ME RIS	
The Standard Oil Company		X-4-4		SX-4	-4 1/29/86	1
4. ADDRESS (Street and No. or R.F.D. No., City, Sta	te, and Zip Code)	5. PHONE (Include area code)			CIAL USE ONLY	
Midland Building (928TT) Cleveland, Ohio 44115	e y e	(216) 575-8460	PVPC	NUMBER 840	0116	
6. GENUS AND SPECIES NAME Zea Mays	7. FAMILY NA Gram	_	FILING	5/25 TIME 2:30		
8. KIND NAME	٩	DATE OF DETERMINATION			FOR FILING	
Corn	December 1981					
10. IF THE APPLICANT NAMED IS NOT A "PERSO partnership, association, etc.) Corporation	N," GIVE FORM	OF ORGANIZATION (Corporat	'uoi FEES RECEIVED	\$ 200°	25 00 CERTIFICATE	. — 76
11. IF INCORPORATED, GIVE STATE OF INCORPO	DRATION				corporation 10. 1870	
13. NAME AND ADDRESS OF APPLICANT REPRES Charles E. Lipsey or Geoffi Finnegan, Henderson, Farabo			PLICATIO	N AND REC	EIVE ALL PAPERS	•
1775 K Street, N.W. Washington, D.C. 20006	Jw, Gaile	PHONE (Include	e area code): (202) 293-6850	o
14. CHECK APPROPRIATE BOX FOR EACH ATTAC	CHMENT SUBMIT	TTED		2		
a. X Exhibit A, Origin and Breeding History of the Section 52 of the Plant Variety Protection A.		c. Exhibit C, Objection from Plant Variety	ve Descript Protection	tion of the V or Office.)	ariety (Request form	!
b. X Exhibit B, Novelty Statement			Staten	ent of	Basis of Own	
15. DOES THE APPLICANT(S) SPECIFY THAT SEE SEED? (See Section 83(a) of the Plant Variety Pro	otection Act.)	Yes (If "Yes," answ	ver items 1	6 and 17 be	low) 🔀	R/S
16. DOES THE APPLICANT(S) SPECIFY THAT THIS LIMITED AS TO NUMBER OF GENERATIONS?	S VARIETY BE	17. IF "YES" TO ITEM 1 BEYOND BREEDER	6, WHICH SEED?	CLASSES C	F PRODUCTION	
Yes No		Foundation	R	egistered	Certifie	id
18. DID THE APPLICANT(S) FILE FOR PROTECTION	ON OF THE VAR	IETY IN THE U.S.?			Yes (If "Yes," give o	date)
				X	No	
19. HAS THE VARIETY BEEN OFFERED FOR SAL	E OR MARKETE	D IN THE U.S. OR OTHER COU	NTRIES?		Yes (If "Yes," give i of countries and dat	names tes)
				x	No	
20. The applicant(s) declare(s) that a viable samp plenished upon request in accordance with su	ole of basic seed uch regulations :	s of this variety will be furnis as may be applicable.	hed with	the applica	tion and will be re	>-
The undersigned applicant(s) is (are) the own distinct, uniform, and stable as required in Se Variety Protection Act.	er(s) of this sex ection 41, and is	ually reproduced novel plant s entitled to protection under	variety, a	and believe isions of Se	(s) that the variety ection 42 of the Pl	is ant
Applicant(s) is (are) informed that false repre			nd result	in penaltie	s.	<u>.</u>
signature of APPLICANTThe Standard	l Oil Com	npany	İ	ATE	1007	
By JM	com			1ay 10	, 1984	
skynnynn narry W. E	Evans	·	h-s	XXE	A CONTRACTOR OF THE CONTRACTOR	

Exhibit A: Origin and Breeding History of Corn Variety LX-4-47

15X-4-4

<X-4-47originated out of Dudley and Alexander's "Synthetic"</pre> B." The breeding method for obtaining Synthetic B is described in J. W. Dudley and D. E. Alexander, Crop Science, 9:613-615, 1969. Original breeding stock was obtained from the University of Illinois in May, 1980.

The seeds of Synthetic B were planted in May of 1980 and self-pollinations were made on the most robust plants during the summer of 1980. Self-pollinated seed from these plants were bulked and selfed in the winter of 1980-81, winter of 1981-82, winter of 1982-83, and summer of 1983. Ears were kept separate from the summer 1983 planting, and an ear-to-row planting was made during the winter of 1983-84. Acceptable uniformity was observed.

Outline of the Development of 4X-4-47

Туре	Description	Location	<u>Year</u>
Synthetic B	Self-pollination	Ohio, Illinois	1980
4	Self-pollination	Florida	1980-81
. 4	Self-pollination	Florida	1981-82
4	Self-pollination	Florida	1982-83
4	Self-pollination	Indiana	1983
<x-4-47 'SX-4-7'</x-4-47 	Self-pollination	Florida	1983-84

 $^{\prime}SX-4-4^{\prime}$ Addendum to Exhibit A for Corn Variety $(X-4-47)_{1/29/86}$

Two generations were judged for uniformity and stability. There were no discernible variants.

Exhibit B: Novelty Statement

'5X-4-4'

 $\langle X-4-47$ is a tetraploid Zea maize ssp. maize. Unlike $\langle SX-4-47 \rangle$ diploid corn, $\langle X-4-47 \rangle$ twice the normal number of chromosomes, that is, it has 40 somatic chromosomes. Normal Zea maize ssp. maize is diploid, and has 20 somatic chromosomes. Therefore, $\langle SX-4-47 \rangle$ unique on the basis of its number of somatic chromosomes, and differs from all diploid corn on this basis.

'SX-4-4'

"SX-4-4"

<X-4-47 differs from other tetraploid inbred lines of corn on the basis of the characteristics given in Exhibit C.

The only other tetraploid varieties of which the applicant is aware are those developed by the applicant itself. 5X-4-4 may be compared to and distinguished from tetraploid varieties \$X-4-2, SX-5-6, SX-5-11, and SX-6-3 for which applications for plant variety protection have been filed. The varieties have been assigned the following application numbers:

<u>Variety</u>	Application Number
'SX-4-2' 'SX-5-6' 'SX-5-11' 'SX-6-3'	8400117 8400114 8400110 8400118
/SX-4-4 differs from:	
$^{\prime}$ SX-4-2 $^{\prime}$ on the basis of:	
leaf color Glume color Husk color Leaf width-Florida Och colox Esterase 1**	(1 vs. 3, respectively)* (1 vs. 2) (1 vs. 2) (11 cm vs. 9 cm) (2/ Np.//2) (3 vs. 2)
$^{\prime}SX-5-6^{\prime}$ on the basis of:	
Leaf color Ring color Husk color Ecop color Esterase 1	(1 vs. /2) 3 (1 vs. 2) (1 vs. 2) (1 vs. 2) (1 vs. 1)
$^{\prime}$ SX-5-11 $^{\prime}$ on the basis of:	
Leaf color Ring color Husk color Leaf width-Florida Heat units-Florida	(1 vs. 2) (1 vs. 2) (1 vs. 2) (11 cm vs. 9 cm) (1602 vs. 1486) (4 水海、八砂)
SX-6-3 on the basis of:	
Leaf color Anther color Glume color Ring color Husk color Leaf width-Florida Leaf length-Florida Tassel branch angle Esterase 1	(1 vs. 2) 3 (1 vs. 2) (1 vs. 2) (1 vs. 2) (1 vs. 2) (1 vs. 2) (11 cm vs. 9 cm) (72 cm vs. 55 cm) 3 (2 vs. 1) (3 vs. 2)

^{*}The numbers refer to those listed for the particular characteristics on the Objective Description of Variety (Exhibit C) in the application for the identified varieties. **See Exhibit D in the referenced applications.

Amendment to Exhibit B for Corn Variety $\langle X-4-4 \rangle$ (Application No. 8400116)

Please amend Exhibit B to show that \$X-4-4' does not differ from \$X-4-2, \$X-5-11, and \$X-5-6 on the basis of cob color; that it differs from \$X-5-11 on the basis of leaf color (1 vs 3); that it differs from \$X-5-6 on the basis of leaf color (1 vs 3); and that it differs from \$X-6-3 on the basis of leaf color (1 vs 3) and tassel branch angle (3 vs 1).

FORM GR-470-28 (2-15-74)

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE GRAIN DIVISION

Revised (Corn)

HYATTSVILLE, MARYLAND 20782

OBJECTIVE DESCRIPTION OF VARIETY

SX-4-4

CORN (ZEA MATS)	
NAME OF APPLICANT(S)	FOR OFFICIAL USE ONLY
The Standard Oil Company ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)	8400116
	VARIETY NAME OR TEMPORARY
200 Public Square, 36-F-3454 Cleveland, Ohio 44114-2375	DESIGNATION
Cieverand, Onio 44114-2375	
Place the appropriate number that describes the varietal character of this variety in the Place a zero in first hox (e.s. 0 8 9 or 0 9) when number is either 99 or less or	boxes below. 9 or less.
1. TYPE:	
1 = SWEET 2 = DENT 3 = FLINT 4 = FLOUR 5 = F	OP 6 = ORNAMENTAL
2. REGION WHERE BEST ADAPTED IN THE U.S.A.:	
1 = NORTHWEST 2 = NORTHCENTRAL 3 = NORTHEAST 5 = SOUTHCENTRAL 6 = SOUTHWEST 7 = MOST REGIONS	4 = SOUTHEAST
	omments" (pg. 3) state how
	ts were calculated)
DAYS FROM EMERGENCE TO 50% OF PLANTS IN SILK	0 2 HEAT UNITS - Florida
DAYS FROM 50% SILK TO OPTIMUM EDIBLE QUALITY	HEAT UNITS
DAYS FROM 50% SILK TO HARVEST AT 25% KERNEL MOISTURE	HEAT UNITS
4. PLANT: 2 2 8 - Ohio	
	2. 0 - Ohio
1 3 0 CM. HEIGHT (To tassel tip) — Florida	4 5 CM. EAR HEIGHT (To base of top e
THE PROPERTY OF THE PROPERTY O	riorida
CM. LENGTH OF TOP EAR INTERNODE	
·	
Number of Tillers: Number of Ears Per Stalk	
	= SLIGHT TWO-EAR TENDENCY D-EAR TENDENCY 4 = THREE-EAR TENDEN
Cytoplasm Type:	
1 = NORMAL 2 = "T" 3 = "S" 4 = "C" 5 = OTHER	R (Specify)
5. LEAF (Field Corn Inbred Examples Given):	
Color:	
C DARK CE	EEN (B14) 4 = VERY DARK GREEN (K
1 = LIGHT GREEN (HY) 2 = MEDIUM GREEN (WF9) 3 = DARK GR	
Angle from Stalk (Upper half): Sheath Pubscence:	
$1 = 30^{\circ}$ $2 = 30 - 60^{\circ}$ $3 = 60^{\circ}$ $1 = LIGHT$	
3 = HEAV	Y (OH26)
Marginal Waves: Longitudinal Creases:	
1 = NONE (HY) 2 = FEW (WF9) 3 = MANY (OH7L) 1 = ABSEN	NT (OH51) 2 = FEW (OH56A)
2 1=NONE (HY) 2= FEW (WF9) 3=MANY (OH7L) 1 3=MANY	
Width: Length:	
	· · · · · · · · · · · · · · · · · · ·
1 1 CM. WIDEST POINT OF EAR NODE LEAF 0 7 2 CM.	EAR NODE LEAF
0 9 NUMBER OF LEAVES PER MATURE PLANT	

٥	,				:					SX-4-4	8	400116 Page 2 of 3
	GR-470-28		<u> </u>		<u> </u>	<u></u>			<u></u> · · ·	··		
ь.	TASSEL:											
	08	NUMBER OF I	ATERA	L BRANCHES	S	*						-
	Branch Ang	le from Central S	pike:			Pen	duncle Leng	th:				
	3	1 = < 305	2 = 30-	-40°	3 = > 45°			CM. FR	ом тор	LEAF TO BAS	AL BRAN	CHES
	Pollen Shed	: ·										
	3	1 = LIGHT (W	- 9)	2 =	MEDIUM		3 = HEV	VY(KY21)				
		Anther Color:)	YELLOW OTHER (Spe	2 : cify)		3 = R	ED	4 = PL	JRPLE	5 = GRE	EN .
	Pollen Rest	Ring Col	piasms (o	= Not Tested,	, 1 = Partial,	2 = Good)						
	"т"		"S"	"c·	. [ОТНЕ	R (Specify C	ytoplasm ar	nd degrees	of restoration)		
	FAD (Huel	ked Ear Data Exc	ent Wher	Stated Other	rwise):							
	1 0	CM LENGTH			ID-POINT			GM. V	VEIGHT			
	Kernel Row	rs:							•			
		1 = INDISTIN	СТ	2 = DI	STINCT		1	4 NUMB	ER			
		1 = STRAIGH	r	2 = SLIGI	ITLY CURV	/ED	3 = SPI	RA L			÷	
	Silk Color (Exposed at Silkii	ng Stage):					÷			•	
	1	1 = GREEN		2 = PINK	3 = S	ALMON	4	= RED				
	1 In	ternal S.	ilk C	olor								
	1	FRESH):	1 = LIGHT G	REEN		2 = DARK	GREEN		3 = PINK		
		DRY	}	4 = RED		5 = PURF	LE	6 =	BUFF	a.		
	Husk Exten	tion: (Harvest S	tage)			Hu	ısk Leaf:					•
	4 3= L	HORT (Ears Exp	Beyond E	= MEDIUM (E ar Tip)	Barely Cover	ing Ear)	1	1 = SHOR 3 = LON	T (< 8 (G (> 15		-8) MUIC	15 CM)
	4 = V Shank:	ERY LONG (>	10 CM)			Po	sition at Dry	Husk Stage	:			
		CM LONG		NO. OF INTE	RNODES		2	1 = UPRIC	ЭНТ	2 = HORIZON	TAL :	3 = PENDENT
	Taper:					Dr	ying Time (U	Jnhusked Ea	r):			
		1 = SLIGHT	2 = AV	ERAGE	3 = EXTRE	ME		1 = SLOW	1	2 = AVERAGE	Ξ ;	3 = FAST

8. KERNEL (Dried):

Size (From Ear Mid-Point):

0 9 MM

MM LONG



MM. WIDE



мм, тніск

Shape Grade (% Rounds)

1 = < 20

2 = 20-40

3 = 40-60

4 = 60 -80

5 = > 80

8

VARIETY CHARACTER VARIETY CHARACTER Kernel Type Maturity Quality (Edible) Plant Type Usage Ear Type

REFERENCES:

U.S. Department Agriculture. Yearbook 1937.

Corn: Culture, Processing, Products. 1970 Avi Publishing Company, Westport, Connecticut. (Númerous (Authors) Emerson, R.A., G.W. Beadle, and A.C. Fraser. A Summary of Linkage Studies in Malze, Cornell A.E.S., Mem. 180, 1935. The Mutants of Maize. 1968. Crop Science Society of America. Madison, Wisconsin.

Stringfield, G.H. Maize Inbred Lines of Ohio, Ohio A.E.S. Bul. 831. 1959.

Butler, D.R. 1954 - A System for the Classification of Corn Inbred Lines - PhD. Thesis, Ohio State University.

84001.16

P 15
1/29/86
'5X-4-4'

Exhibit D: Additional Description of Corn Variety (X-4-47

X-4-4 was tested for esterase 1 as described in A. L. Kahler, Crop Science, 23:572-576, 1983. The results were as follows: esterase 1 locus, allele 3.

Exhibit E: Statement of the Basis of Applicant's Ownership

1/29/86

The Standard Oil Company is the employer of the plant (SX-4-4) breeder involved in the development of (SX-4-4). The Standard Oil Company has sole rights to and ownership of (SX-4-4)?

ASSIGNMENT

WHEREAS, I, STEVEN CHANDLER PRICE, a citizen of the United States of America, residing at 21210 Clare Avenue, Maple Heights, Ohio 44137, as assignor, have developed a novel plant variety designated Corn(X-4-4); and $\frac{1}{24/8}$

WHEREAS, THE STANDARD OIL COMPANY, a corporation organized and doing business under the laws of the State of Ohio, whose post office address is Midland Building, Cleveland, Ohio 44115, as assignee, is desirous of securing the entire right, title, and interest in and to this novel plant variety in all countries throughout the world;

NOW THEREFORE, be it known that for and in consideration of the sum of One Dollar (\$1.00) in hand paid and other good and valuable consideration the receipt of which from assignee is hereby acknowledged, I, as assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the assignee, its lawful successors and assigns, my entire right, title and interest in and to this novel plant variety designated Corn SX-4-4 and improvements thereof, the sodesignated Application for United States Certificate of Plant Variety Protection, which was executed on May 10, 1984 by assignee, and all Certificates of Plant Variety Protection of the United States which may be granted thereon, and all reissues, continuations, extensions, or renewals thereof, and all rights to claim priority on the basis of such application, and all applications for Certificates of Plant Variety Protection or applications for similar rights, however denominated, which may hereafter be filed for this novel plant variety in any foreign country and all Certificates of Plant Variety Protection or other rights which may be granted on this novel plant variety in any foreign country, and all extensions, renewals, and reissues thereof; and I hereby authorize and request the Secretary of Agriculture of the United States and any official of any foreign country whose duty it is to issue certificates on applications as described above, to issue all Certificates of Plant Variety Protection or other rights for this novel plant variety to assignee, its successors and assigns in accordance with the terms of this Assign-

AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any agreement in conflict with this Assignment;

AND, I HEREBY further covenant and agree that I will, without further consideration, communicate with assignee, its successors and assigns, any facts known to me respecting this novel plant variety, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this novel plant variety in said assignee, its successors and assigns, make all rightful oaths and generally do everything possible to aid assignee, its successors and assigns to obtain and enforce proper certificate protection for this novel plant variety in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

I authorize my attorney(s) to insert on this assignment the cation when known.	Joseph G. Curatolo ,e date of execution of said appli
IN TESTIMONY WHEREOF, I have day of, 1984	(Signature of Assignor)
COUNTY OF CUYAHOGA) STATE OF OHIO)	ss.
Subscribed and Sworn to bef	Justin Munding Frollotary Public
(SEAL)	SUSAN MUNDING FROLLO Notary Public STATE OF CHIO My Commission Expires August 24, 1985
Witnesses:	
Patricia a Salvagioni)	